

Generator Gas Manifold (GGM)

E/One's focus on hydrogen-cooled generator gas systems begins at the point where cooling and purge gases enter the generator.

SPECIFICATIONS

MEASUREMENT CHARACTERISTICS

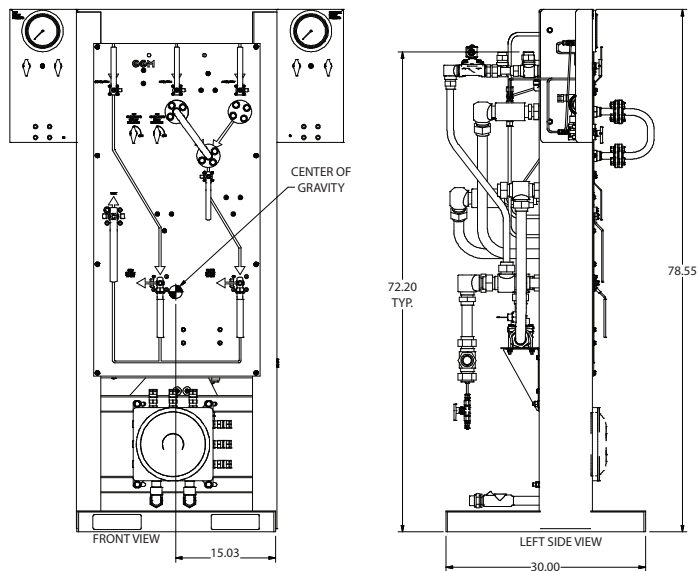
Operating Fluid	Gaseous H ₂ , CO ₂ , Air, Argon
Generator casing pressure relief valve	Set at 10-15 psig above casing pressure

ELECTRICAL CHARACTERISTICS

Ambient Location	Class 1, Division 2, Group B, C, D Zone 2 Hydrogen (NEC/NFPA/IEC)
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MECHANICAL CHARACTERISTICS

Overall Dimensions	30.06" w x 78.55" h x 30" d (764 mm x 1995 mm x 762 mm)
Weight	Approximately 700 lbs. (317.5 Kg)
Manifold Assembly	SS tube
Isolation valves	Fire-safe, 3-piece ball valves with stainless steel trim
Ambient temperature range	-20°F to 125°F (-29°C to 52°C)
Maximum Pressure	Varies with application
Maximum Process Gas Temperature	150°F (65°C)
H₂, CO₂, Air supply connections	1" ANSI 150# class raised-face flanges
Gas delivery connections	1.5" ANSI 150# raised-face flanges



THE MANIFOLD

From the point where gas is received from the plant's bulk supply or bottle manifold, E/One's GGM monitors critical H₂ and CO₂ supply pressures and regulates the hydrogen supply to the appropriate machine gas pressure. Manual isolation valves, arranged for easy end-user access, allow operators to control all facets of the purge process from a single location. A safety spool is also an integral feature of the GGM and ensures that dangerous mixtures of H₂ and Air are avoided.

GAS & CUSTOM DISPLAYS

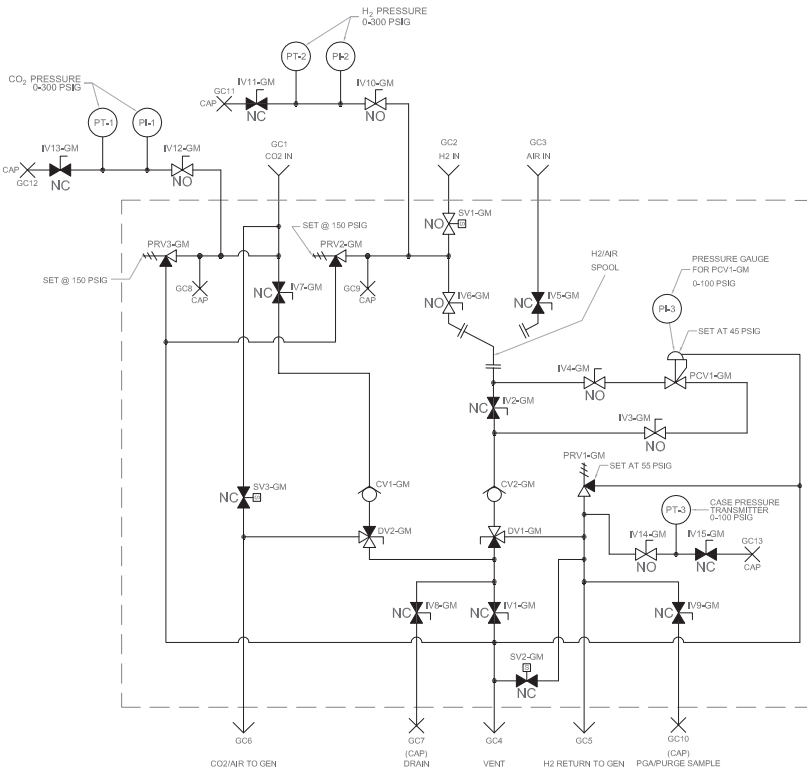
E/One's GGM system is typically incorporated in a gas skid (although it is available as a standalone system) and is combined with a standard GAS display or a customized configuration that can include a range of annunciator points relating to both the gas and seal oil system. Local display of critical values in the hazardous area and interface with the control room DCS are both standard features in any of E/One's GAS displays.

AUTO-PURGE (OPTIONAL)

E/One's GGM can be configured to include an optional Generator Auto-Purge feature. This feature includes a series of solenoid valves integrated into the GGM piping that, when initiated by the plant DCS, will quickly and safely de-gas and purge the generator with either CO₂ or Argon gas (whichever purge gas is used by the plant).



P&ID



INSTRUMENT & RELIEF VALVE TABLE

COMPONENT	DESCRIPTION	OPERATING RANGE & SET PRESSURE
PT1-CO2	PRESSURE TRANSMITTER - CO2	OPERATING PRESSURE 0-300 PSIG
PI1-CO2	PRESSURE INSTRUMENT - CO2	OPERATING PRESSURE 0-300 PSIG
PT2-H2	PRESSURE TRANSMITTER - H2	OPERATING PRESSURE 0-300 PSIG
PI2-H2	PRESSURE INSTRUMENT - H2	OPERATING PRESSURE 0-300 PSIG
PI3-H2/CO2	PRESSURE INSTRUMENT - H2/CO2	OPERATING PRESSURE 0-100 PSIG
PT3-H2	PRESSURE TRANSMITTER - CASE	SET AT 100 PSIG
PRV1-GM	PRESSURE RELIEF VALVE #1	SET AT 55 PSIG
PRV2-GM	PRESSURE RELIEF VALVE #2	SET AT 150 PSIG
PRV3-GM	PRESSURE RELIEF VALVE #3	SET AT 150 PSIG
PCV1-GM	PRESSURE CONTROL VALVE #1	SET AT 45 PSIG

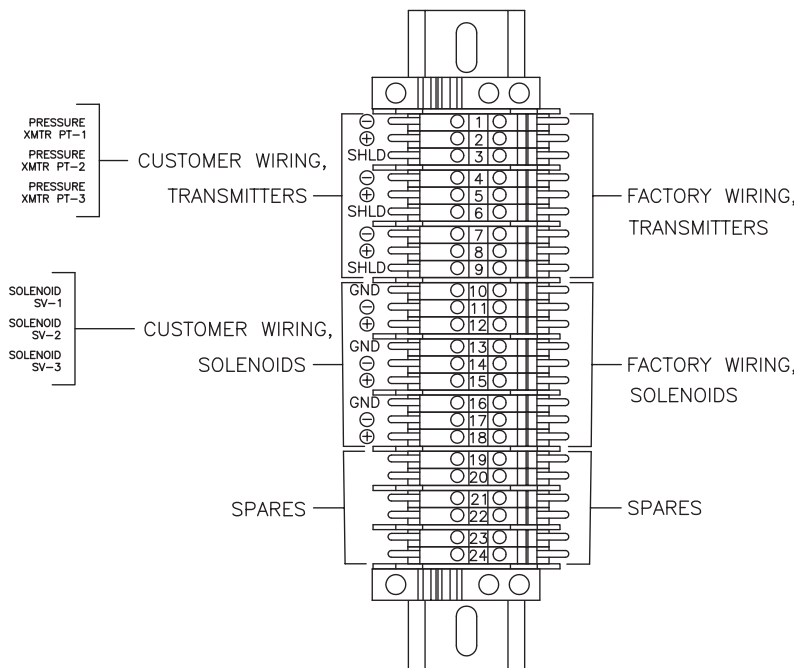
PROCESS CONNECTION TABLE

CONNECTION	SIZE	TYPE	DESCRIPTION
GC1	1"	TUBE SOCKET WELD	CO2 IN
GC2	1"	TUBE SOCKET WELD	H2 IN
GC3	1"	TUBE SOCKET WELD	AIR IN
GC4	1.5"	TUBE SOCKET WELD	VENT
GC5	1.5"	TUBE SOCKET WELD	H2 TO GENERATOR
GC6	1.5"	TUBE SOCKET WELD	CO2 TO GENERATOR
GC7	.25"	COMPRESSION	DRAIN
GC8	.5"	COMPRESSION	CO2 SUPPLY PRESSURE PORT
GC9	.5"	COMPRESSION	H2 SUPPLY PRESSURE PORT
GC10	.25"	COMPRESSION	PGA/PURGE SAMPLE PORT
GC11	.25"	COMPRESSION	CAL PORT H2
GC12	.25"	COMPRESSION	CAL PORT CO2
GC13	.25"	COMPRESSION	CAL PORT CASE

NOTES:

1. SPOOL AND VALVES SHOWN IN H2 FILL AND CO2 PURGE POSITION.
2. WARNING! THERE ARE TO BE NO OBSTRUCTIONS IN VENT LINE.
3. REFERENCE GGM OUTLINE HD1731P01.

CUSTOMER CONNECTION



NOTES:

1. TERMINAL QUANTITY - 24 UNITS.
- 24VDC, 40W
- PT-1 & PT-2 LOOP POWERED EXTERNALLY EXCITED
4-20mA = 0-300psig
- PT-3 LOOP POWERED EXTERNALLY EXCITED
4-20mA = 0-100psig
- SV-1 24VDC, 10W
SV-2 24VDC, 20W
SV-3 24VDC, 10W



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